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Autumn Ushers In Increase In U.S. Drilling

The U.S. count of active rotary rigs picked up during the period of this report with four straight weeks of increased activity. Canada, on the other hand, suffered a sharp drop from the 260-level in mid-September all the way down to 184 at the beginning of October. Dominion drillers seem to have recovered quickly, however, because they added 55 active rigs by October 8.

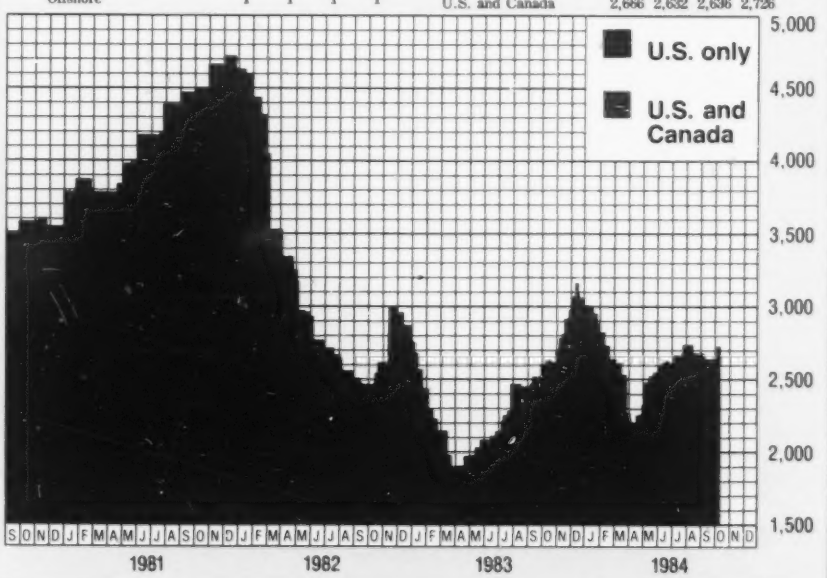
As is becoming usual, state-by-state activity remained fairly constant from mid-September to early October. Texas leads the way with more than 800 active rigs. Second most active state, according to Hughes Tool Co., preparers of the weekly rig counts, is Louisiana, with slightly more than 300. Oklahoma is a close third with rig counts in the 280-range, and Kansas has a firm grip on fourth place with approximately 140 active rigs.

Fighting it out for the last remaining spot in the five are Wyoming and California, with Wyoming currently ahead by fewer than ten rigs.

Rotary rigs actually making hole in United States & Canada

As Reported To International Association Of Drilling Contractors By Hughes Tool Co.

	Sept. 17, 1984	Sept. 24, 1984	Oct. 1, 1984	Oct. 8, 1984
Alabama				
Land	13	13	8	14
Inland Waters	3	3	4	4
Offshore	1	1	1	1
Total	17	17	13	19
Alaska				
Land	9	8	8	7
Offshore	5	5	6	8
Total	14	13	14	15
Arkansas	31	27	26	31
California				
Land	92	95	91	90
Offshore	17	19	17	21
Total	109	114	108	111
Colorado	57	49	58	58
Florida	2	2	3	3
Georgia	0	0	1	1
Idaho	0	1	1	1
Illinois	51	51	54	58
Indiana	7	7	5	8
Kansas	145	148	145	139
Kentucky	10	11	9	7
North Louisiana	29	30	26	25
South Louisiana				
Inland Waters	43	46	49	55
Land	92	87	89	93
Offshore	136	132	138	143
Total	300	295	302	316
Michigan	37	35	35	39
Mississippi	32	31	37	27
Montana	46	42	38	31
Nebraska	5	7	8	7
Nevada	6	6	5	5
New Jersey				
Offshore	1	1	1	1
New Mexico	78	83	84	94
New York	7	8	10	8
North Dakota	45	54	41	39
Ohio	54	56	60	67
Oklahoma	294	286	280	284
Oregon	0	0	0	1
Pennsylvania	44	45	43	46
South Dakota	3	2	2	2
Tennessee	1	1	1	1
Texas				
Offshore	56	52	55	56
Inland Waters	5	3	5	8
Dist. 1-S. Central Tex.	16	16	16	13
Dist. 2-Middle Tex. Coast	35	37	39	39
Dist. 3-Upper Tex. Coast	97	101	115	112
Dist. 4-Lower Tex. Coast	81	78	81	89
Dist. 5-Northeast Tex.	32	35	22	40
Dist. 6-Far Northeast Tex.	76	68	76	60
Dist. 7B-N. Central Tex.	46	39	48	49
Dist. 7C-W. Central Tex.	51	53	55	56
Dist. 8-Far West Tex.	144	160	161	151
Dist. 8A-West Tex.	76	71	69	70
Dist. 9-North Tex.	72	76	72	71
Dist. 10-Tex. Panhandle	41	44	48	45
Total	828	833	862	87[illegible]
Utah	46	48	47	[illegible]
Vermont	0	0	1	[illegible]
Virginia	4	3	3	[illegible]
Washington State	1	1	1	[illegible]
West Virginia	43	42	41	48
Wyoming	119	121	113	118
Total U.S.	2,438	2,441	2,452	2,487
Canada	211	174	171	225
Canada-Offshore	17	17	13	14
U.S. and Canada	2,666	2,632	2,636	2,726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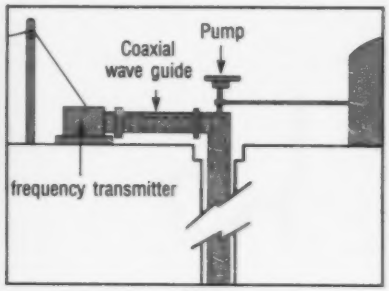

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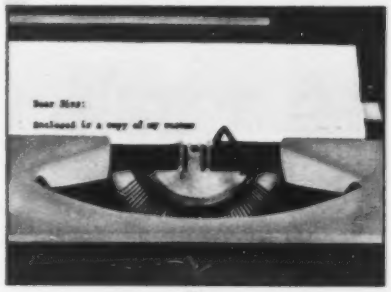

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PRODUCTION IMPROVEMENT

What Operators Say About Fiberglass Sucker Rods 21
by W. B. Bleakley, Editor. When introduced about 10 years ago, fiberglass rods brought with them a host of operating problems. The present generation of rods, however, coupled with today's technology, works well in many applications.

How To Treat Seawater For Water Injection 28
by Monica A. Jorque, Bechtel Petroleum Inc. In addition to dealing with the special corrosion and scale control problems seawater presents, the treatment scheme must be able to produce water of suitable quality for injection.

Niper–Where It Stands And Where It's Headed 36
In an exclusive interview, Richard H. Snow, Herbert B. Carroll, and L. W. Browne say that the National Institute for Petroleum and Energy Research offers its capability to any company in the industry that wants to take advantage of it.

Failure Analysis Isolates Production Problems 46
by Stanford A. Smith Jr. and James D. Garber, University of Southwestern Louisiana, and Larry R. White, Weintritt Laboratories. Although most failures are related to corrosion, most of them are prompted by improper handling of the metals.

Radio Energy May Boost Heavy Oil Recovery 50
by W. B. Bleakley, Editor. Hoped-for test results should substantially increase production to several barrels per day or more, depending on pressure and other characteristics of the 45-ft-thick, clean-sand reservoir.

What's New In Production? 56
Among production-related products outlined is an invertible packer that has been designed with a safety release provision. There's also a unique belt-driven machine that can be tuned to optimize the characteristics of other pumping components.

Survey Offers Pointers For Engineering Recruits 60
by R. L. Branch, Sohio Petroleum Co. Mergers and the reduction in the number of independent companies are reducing manpower requirements. In addition, many experienced engineers are willing to accept entry-level positions.

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ABOUT THE COVER: Pumping jacks are among the most visible pieces of production equipment in the oil patch. Photo courtesy of The Commonwealth Group Inc., Nashville, Tenn.

NEXT ISSUE: The Offshore Operations Report on November 15 will contain the complete International Fall Rig Locator.

Offshore Activity To Increase In 1985

The year 1985 will be one of expansion for the offshore drilling industry, but changing markets will see some types of drilling equipment in great demand while others will face early retirement. In addition, the number of drilling contractors in the offshore business will decline, according to Loran R. Sheffer, president of Offshore Data Services Inc., Houston, Tex.

He told an IADC/PESA Drilling and Production Marketing Conference in Houston recently that many offshore contractors are entering 1985 financially depleted, and the market may not revive fast enough to keep all of them in business.

A multi-tiered capability and investment structure continues to develop, he said, causing a more complex marketplace, with narrow niches of opportunities. The high-technology market, for example, particularly in deep water and in the arctic, should benefit those capable of participating. The commodity market is highly competitive, particularly in the Gulf of Mexico, where the lowest cost rig operator (compatible with crew quality) will fare best.

A new generation of drilling rigs will be built as the industry involves itself more in frontier areas. Costs are enormous, however, so there may be more direct investment by oil firms in building such units. Sheffer looks for the next rig-building boom to be centered on national interests and the larger, established contractors. Fewer units will be built than during previous building booms. But total investment could be as great as before because specialized units are expensive.

Subsea work will become commonplace, expanding markets for floating rigs for development drilling. And floating production systems will be stressed as the industry moves into deeper water.

The mobile offshore rig fleet had an 86% utilization rate in early August 1984, almost 10 percentage points up from the August 1983 low of 76.5%. Worldwide, there were 103 idle offshore rigs in August 1984, compared with 161 idle rigs a year earlier. In the Gulf of Mexico, there were 245 units in August 1984, with 34 idle, compared with 212 and 93 idle a year earlier.

Two markets – the North Sea and the Gulf of Mexico – account for more than half of the world's rig fleet. The North Sea is the pivotal semisubmersible market, and the Gulf of Mexico is the pivotal jackup market. The Gulf of Mexico-North Sea offshore fleet population rose from 240 to 344 units from January 1982 to August 1984, an increase of 104 units. Working rigs increased by 65 units, from 240 to 305. These are record levels. With 211 mobile rigs at work in the Gulf of Mexico and 94 in the North Sea, the utilization rate for this combined market is 88.6%.

In addition, encouraging acreage offerings are scheduled by the UK, Norway, Denmark, and the Netherlands. Big stimulus in the Gulf of Mexico is the area-wide lease sales held during the past 15 months, with as much acreage awarded there as in the previous 11 years.

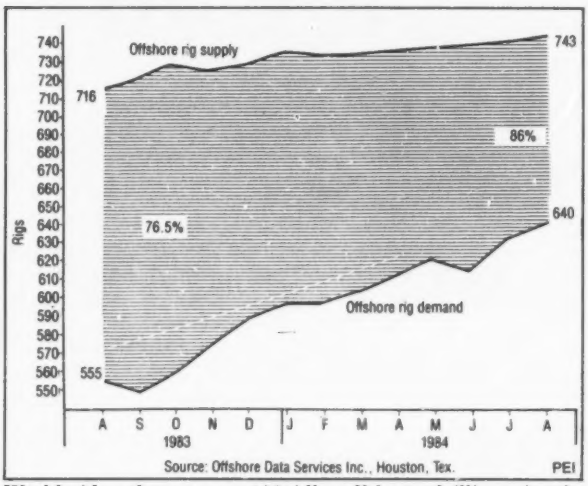
The Jim Cunningham, one of the newest semisubmersibles in Reading and Bates Corp.'s rig fleet, now is drilling offshore China.

The world offshore drilling fleet, excluding the Gulf of Mexico and the North Sea, increased from the fourth quarter of 1981 through the third quarter of 1984 by 72 rigs – to a total of 399. Working units increased from 279 to 288, with reversal of the downward trend happening just recently. Idle units steadily increased in number until about mid-1984 despite mass migration of units to the North Sea and the Gulf of Mexico.

Mixed Outlook

More rigs are working offshore today than ever before, yet day rates are near all-time lows. So the 1985 outlook is mixed. Market conditions worldwide are expected to be much better in 1985. Many African drilling programs are planned, in Liberia, for example, and in Togo, Benin, Madagascar, Mauritania, and, likely, Tunisia and the Ivory Coast. In addition, offshore drilling programs in Egypt, Nigeria, Gabon, Cameroon, Cabinda, and Angola will continue.

Drilling offshore India may accelerate. Indonesia's



Worldwide, there were 103 idle offshore drilling rigs in August 1984, compared with 161 idle rigs a year earlier.

pace should quicken – Pertamina is speeding up processing of budget and work programs. And activity also will occur in the Bahamas, Pakistan, Belize, and the Philippines. African and Southeast Asian activity, therefore, plus scattered work elsewhere, will be enough to tighten rig supply.

In predicting future Gulf of Mexico activity, a rule of thumb is that one exploratory well will evaluate 2,500 acres, considering multiple appraisal wells on given tracts, as well as tracts that are not drilled. Also, a rig will average five exploratory wells per year. Spreading the activity on almost 14 million acres over the lease terms, which in some cases are 10 years, translates into a demand for 220 rigs to explore the Gulf.

Three years ago, about 15% to 20% of development drilling in the Gulf of Mexico was done by mobile rigs. Today, the figure is more than 50%. Low day rates are partly the reason, but the fact is that discoveries, mainly in less than 300 ft of water, are trending smaller, which means smaller platforms. With cantilever jackups, development drilling can be expected to continue to be a major market for mobile rigs.

Shortages Foreseen

Assuming that development drilling continues to employ 100 mobile rigs, demand created by new leases will call for a 320-unit fleet, or about 110 more rigs than currently are working in the Gulf of Mexico. And, 220 units drilling wildcats will discover proportionately more fields, which, in turn, will increase the amount of required development drilling.

There are 36 mobile units under construction at this writing, with 10 scheduled for late 1984 delivery. About half are floaters. But the new generation semis are larger and winterized. Since the beginning of 1984, eight orders have been placed for large, deepwater, harsh-environment semisubmersibles, with plans being made for another nine units. Prospects of new Alaskan activity, year-round drilling above the 62nd parallel off Norway, granting of more Canadian and Norwegian licenses, and a series of promising discoveries in these areas are catalysts behind this semi building boom.

The Gulf of Mexico will require more semis to explore the 5.5 million acres leased in more than 300 ft of water. These semis will be older units pulled out of the North Sea and elsewhere. This will leave a void that will be filled by the new generation semis.

Before the five area-wide sales, there were 18 semisubmersibles in the Gulf of Mexico. In mid-1984, there were 34. From 15 to 20 additional floaters may need to be moved in to meet expected demand. About 39% of the new acreage from the five area-wide lease sales is in more than 300 ft of water, but only 17% of the Gulf fleet, including both semis and drillships, can drill in waters that deep.

Deepwater development technology's leading edge will take place in the Gulf of Mexico, replacing the North Sea's leadership during the past 10 years. All ingredients are in place. Plenty of ultradeepwater acreage is available, with 14% of new leases in more than 1,500 ft of water; the environment is mild; the support structure is well developed; the government is stable, and the likelihood of discoveries is good.

Jackup Market

The jackup market is expected to recover more slowly than the semi market. Between 1979 and year-end 1983, the international fleet added 249 jackups. In mid-1984, there were 92 idle jackups. A heavy jackup retirement program is anticipated. Seven were retired in the past 18 months, and another nine units are slated for retirement shortly. Another 21 jackups are older than 20 years, so they are prime retirement candidates.

Profitability

Good profitability is not expected to return until utilization exceeds 90% or 95%. Then, about 40 rigs will be idle. But certain segments of the rig fleet will return to profitability before others. Semisubmersibles, whose day rates have risen to the low $40,000s in the Gulf of Mexico, already are becoming profitable.

Half of the Gulf of Mexico's jackup rigs can show a profit at rates of less than $20,000 a day. Rates in the Gulf right now are in the $12,000 to $16,000 range, as they are almost everywhere, except for the North Sea and such harsh-environment areas as Canada and Alaska. As the shortage of large cantilever rigs in the Gulf tightens, however, day rates may increase there to the high $20,000s or low $30,000s.

Next year, therefore, should be better for offshore drilling rig operators than 1984. But there still are some for whom the main goal of 1985 will be to stay alive.

Buoys Deployed In North Atlantic

Two of what are called the most advanced weather monitoring buoys in the world now are operating for the UK Offshore Operators Association in the North Atlantic, where they are providing meteorological and oceanographic data for Britain's offshore oil and gas industry.

The buoys, designed and built by Thorn EMI Electronics of Woking, England, are moored on the edge of the UK continental shelf in 600 ft of water. One is